

## Observations and notes on Dermaptera, Mantodea and Orthoptera of Bahçesaray district (Van Province, East Turkey)

Muhabbet Kemal <sup>1</sup> Ahmet Ömer Koçak

**Abstract:** Observations and notes on Dermaptera, Mantodea and Orthoptera of Bahçesaray district (Van Province, East Turkey) *Cesa News* 145: 1-12, 24 figs.

In this paper, the first attempt at the beginning level on the fauna of Mantodea, Dermaptera and Orthoptera of Bahçesaray was made by the authors. In total, 30 species of 9 families in 3 pterygot orders are listed with synonyms, and distributional codes. Four species are mentioned as new for the fauna of Van Province. Observations made during field studies of the authors are supported by the illustrations.

**Key words:** Dermaptera, Mantodea, Orthoptera, fauna, Bahçesaray, Van, Turkey.

In the previous publication, the authors listed the dipteran species of Bahçesaray district (Kemal & Koçak, 2017). The material were collected by the authors during their several entomological trips to the district Bahçesaray (Van Province, East Turkey), in order to determine primarily the Lepidoptera fauna. The first results on the Lepidoptera, Hemiptera, Homoptera, and Diptera fauna of Bahçesaray were recently published in this serial.

The authors investigated the pterygot groups in Bahçesaray to some degree. Among the orders, the Orthoptera of Van is very little known by the authors. However, they published a few faunistic records from time to time (Kemal & Koçak, 2014, 2015, 2016a; Kemal et al., 2016; Koçak & Kemal, 2012). The orders Dermaptera and Mantodea are also very little studied in this province (Ehrmann, 2011; Anlaş & Kocarek, 2012).

<sup>1</sup> Asst. Prof. Dr. Muhabbet Kemal, Van Yüzüncü Yıl University, Faculty of Science, Dept. of Biology, Campus, Van / Turkey.

e-mail: [muhabbet\\_kemal@yahoo.com.tr](mailto:muhabbet_kemal@yahoo.com.tr)

co-author: Prof. em. Dr. Ahmet Ömer Koçak, c/o Van Yüzüncü Yıl University, Faculty of Science, Dept. of Biology, Campus, Van / Turkey. e-mail: [cesa\\_tr@yahoo.com.tr](mailto:cesa_tr@yahoo.com.tr)

Observational papers on the pterygots of Bahçesaray are evaluated primarily from the faunistic standpoint. In the last publication, the authors reported the number of species represented in Pterygota fauna of Bahçesaray as 789 (Kemal & Koçak, 2017). The present paper comprises 30 species of 9 families of three orthopteroid orders, recorded from the Bahçesaray district. Thus, the total number of the Pterygota fauna of Bahçesaray reached to 819. To each species, synonymous names, and the range as codes are added (Koçak & Kemal, 2017). Some species, where observed in their living places of Bahçesaray are illustrated. Among them, we don't see two observational figures to identify possible at species level (Figs. 1, 13).



**Figs. 1, 2** – Two different nymphs; from Upper Mukus Valley 1840m (65Am4) on 10 5 2016 (left); from Krapet Pass 3000m (65Abc), on 17 7 2017 (right), M. Kemal (Cesa)

## List of the Dermaptera species

Totally 3 species are recorded from the district.

### **Forficulidae**

Anlaş & Kocarek, 2012.

#### **1. *Forficula auricularia* Linnaeus, 1758**

Synonyms: *auricularia* Linnaeus, 1758; *major* Degeer, 1773; *dentata* Fabricius, 1775; *parallela* Fabricius, 1775; *media* Marsham, 1802; *neglecta* Marsham, 1802; *infumata* Megerle, 1825; *forcipata* Stephens, 1835; *borealis* Leach, 1835; *silanoides* Karny, 1911; *caucasica* Bei-Bienko, 1926

Range (in codes): ES FR SK HU BG UA BY RU KG CY TR TM CA US 02 03 05 06 07 08 09 13 14 15 16 17 18 19 21 23 27 28 30 31 33 34 35 37 38 40 42 44 45 46 47 48 49 50 53 55 56 60 61 62 65 67 73 13G 30A 31M 56A 56F 56Fa 65A 65As 65F 65N 65Nc 65Np 65Nm 73G

Material examined: 1♂. Bahçesaray, Bağcılar 2040m (65As), on 4 6 2016, M. Kemal photo & leg. (Cesa). The species was also recorded previously in Gevaş and Tuşba districts of Van Province.

#### **2. *Anechura bipunctata* (Fabricius, 1781) (Fig. 3)**

Semenov, 1901.

Synonyms: *bipunctata* Fabricius, 1781; *fabricii* Fieber, 1854; *anthracina* Kolenati, 1846; *orientalis* Krauss, 1900; *asiatica* Semenov, 1903 Range (in code): ES TR Arr RU FR SK AM KG UZ AM Cc AF IR Elb Kdv Th TM 04 05 06 07 13 16 25 30 31 35 36 38 46 51 62 65 69 13Gö 13Gğ 31F 65A 65Aç 65D 65F 65Fw 65Fz 65N 65Nş 65Nm

The species is reported here from Meteorology station of Bahçesaray 2570m (65Aç). It was also recorded previously in Çatak, Gevaş and Tuşba districts of Van Province.

#### **3. *Anechura zubovskii* (Semenov, 1901) (Fig. 2)**

Semenov, 1901.

Synonyms: *zubovskii* Semenov, 1901; *pirpanjalae* Santokh Singh, 1955 Range (in code): TR CN IN IR TM 46 65 76 65A 65Abc

The nymph illustrated from Krapet Pass 3000m may belong to *A. zubovskii* Semenov. Anlaş & Kocarek (2012) distinguished *bipunctata* and *zubovskii* in the key by the colouration of the head, "reddish brown" and "entirely black", respectively.



**Fig. 3** – *Anechura bipunctata* (female) from Bahçesaray, Meteorology Station 2570m, on 23 6 2016, M. Kemal (Cesa)

### List of the Mantodea species

Mantids were unexpectedly poor in the district. Unfortunately only 2 species are recorded as nymphs. The species of *Mantis*, *Bolivaria*, *Rivetina*, *Ameles*, *Amorphoscelis* may also occur in Bahçesaray.



**Figs. 4, 5** – *Empusa fasciata* (nymph). From Bahçesaray Kartal 1695m (65Ag), on 9 5 2016 (left); from Upper Mukus Valley 1840m (65Am4), on 23 10 2016 (right), M. Kemal (Cesa)

### *Empusidae*

Ehrmann, 2011.

#### 4. *Empusa fasciata* Brullé, 1836

(Figs. 4,5)

Synonym: *fasciata* Brullé, 1836

Range (in codes): RO YU CY TR IQ Mos EG DZ GR HV B-H Cr IL Pa IR JO 05 06 07 08 13 16 21 23 24 25 30 31 34 35 42 44 45 46 51 56 57 65 73 13A 13Ab 13Ax 30B 30Bc 30Bc1 31K 31Ka 44B 44M 44L 44Lc 46B 46Bb 56F 56Fp 65A 65Ag 65Am 65Am4 65F 65Fd 65Fp 65Fz 65K 65Kd 65Kg 65N 65Np 65Np2 65Np7 65Nr3 65Nm 73A 73Ac 73Ac1

In the other region of Turkey, during the summer, this species was recorded many times as adult. The present records are as nymphs in early May and late October. These cases clearly show that the species hibernates in the nymphal stadium.

**Irididae**

Ehrmann, 2011.

**5. *Iris oratoria* (Linnaeus, 1758)**Synonyms: *oratoria* Linnaeus, 1758; *dentata* Goeze, 1778; *bella* Germar, 1817; *minima* Charpentier, 1825; *fenestrata* Brullé, 1832

Range (in codes): ES MA EG DZ TN CY FR GR Cr IT TR JO IL Pa IR IN TD CA 06 10 12 13 16 23 24 25 31 33 34 35 44 45 48 56 65 73 12A 12Ab 13A 13Ab 13Ax 24E 25R 34H 44F 44I 44Ic 56F 56Fc 56Fo 65A 65Ac 65Ac2 65F 65Fc 65F1 65F8 65Fz 65K 65Ku 73A 73Ad 73Ad2

The species in the nymph stadium was recorded above Liman village (65Ac2) at 2200m in late summer of 2016.

**List of the Orthoptera species**

Totally 25 species of 6 families are reported here.

**Acrididae****6. *Calliptamus italicus* (Linnaeus, 1758)**Synonyms: *italicus* Linnaeus, 1758; *germanicus* Fabricius, 1775; *affinis* Thunberg, 1815; *fasciatum* Hahn, 1836; *marginellus* Serville, 1838; *cerisanus* Serville, 1838; *marmoratus* Fischer von Waldheim, 1846; *blandus* Ivanov, 1888; *bilineata* Puschig, 1910; ...

Range (in codes): ES FR BE NL DE Co Sa Si IT GR BG RO TR CY Cc AZ AM GG KG RU AF 01 03 04 06 07 08 09 13 14 16 18 25 26 31 33 34 35 36 39 43 44 46 49 52 55 56 59 60 61 63 65 76 77 80 04C 04E 08A 08H 13F 31M 36B 36D 44B 44C 44E 44H 44F 44L 46A 46B 46Bb 56F 56Fc 63C 65A 65Ac 65Am 65Am1 65D 65Dh 65F 65Fp 65Fz 76A

One of the commonest species with well developed populations in the district. Almost always it is seen together with some other acridid species in hot summer period.

**7. *Chorthippus (Glyptobothrus) bornhalmi* Harz, 1971**

Mol et al. 2014; Şirin et al., 2017.

Synonyms: *bornhalmi* Harz, 1971; *lagrecai* Harz, 1975

Range (in codes): IT SS YU B-H AL GR BG HV CY TR 05 06 07 14 17 18 19 22 23 28 32 34 35 37 39 42 44 51 52 53 55 59 60 63 65 63C 65A 65Am 65Am4 65D 65Dn 65N 65Np7 65Nm

In the spring, this species is frequently observed in Van Province. Widely distributed in Turkey.

**8. *Dociostaurus (Notostaurus) anatolicus* Krauss, 1896**Synonyms: *anatolicus* Krauss, 1896; *castaneopicta* Krauss, 1896; *castaneopictus* Jacobson, 1905

Range (in codes): YU GR BG TR Cc GG AZ SY JO IL Pa IR Elb Th 01 02 03 04 05 06 07 08 10 12 13 16 17 18 21 23 24 25 26 31 32 33 34 35 36 37 38 39 41 42 43 44 45 46 47 49 50 51 56 60 62 63 65 66 71 73 76 80 04C 04D 04E 04F 04H 08A 13F 13F7 13F72 24E 31B 31C 31M 36D 36E 36Ec 44N 44C 44F 44Fb 44H 44B 44M 44E 44L 46A 46B 46Bb 46D 49E 49Ed 65A 65Ac 65Ac3 65D 65F 65Fp 65Fz 65N 65Np2 65Nm 73A 73Ad 73Ad1 76B

One of the species in the acridid communities in summer. Locally seen, uncommon.

**9. *Oedaleus decorus* (Germar, 1825)**Synonym: *decorus* Germar, 1825

Range (in codes): DZ LY ES FR IT Co GR BG RO UA TR RU Us Cc Da GG TM TJ KK KG CN Ui 01 04 05 06 08 13 20 24 26 30 31 34 35 36 42 43 44 45 46 48 49 55 62 63 65 76 78 80 04F 08A 08H 13A 13Ab 13Ax 13F 13F7 13F72 13G 13Gw 24E 30B 30Bo 31B 31C 31H 36E 36Ec 44B 44C 44H 44E 44F 44Fb 44L 44N 46A 46B 46Bb 46D 49E 49Ed 65A 65Ac 65Ac3 65D 65E 65Ea 65F 65Fc 65Fp 65Fz 65G 65Gb 65K 65Kz 65Kg 65N 65Np2 65Np4 65Nr2 65Nr4 65Nm 76B

One of the species in the acridid communities in summer. Locally common.

**10. *Oedipoda aurea* Uvarov, 1923**Synonym: *aurea* Uvarov, 1923

Range (in codes): TR JO Amm IL Pa SY LB GR Ae Le Sms 01 03 04 06 07 10 12 16 20 21 23 24 27 31 33 35 42 43 44 45 49 63 65 04E 12A 12Ab 24E 31B 31H 44N 44F 44Fb 44C 44C 44B 49F 63E 65A 65Am 65Am1 65Am4

Locally common, inhabits at warm places. Rarely found in the acridid communities.

**11. *Oedipoda caerulescens* (Linnaeus, 1758)**Synonyms: *caerulescens* Linnaeus, 1758; *coeruleipenne* De Geer, 1773; *fasciata* Stal, 1873

Range (in codes): MA LY IT Sa ES PT FR DE CZ CH AT EE BY RO BG TR IR RU HU UA Cm Cc GG Tbl KK KG CN Ui 04 05 06 07 08 09 12 13 15 16 18 20 21 30 31 34 35 36 38 43 44 46 48 49 51 55 56 58 60 61 65 67 80 04D 04E 08A 08G



09K 13G 13F 13F7 13F71 30B 30Br 31B 31C 36C 36D 44C 44H 44O 44B 44N 46A 46B 46Bb 46D 49E 49Ed 56F 58G 58Gj 60G 65A 65Ai 65D 65Dp 65F 65Fp 65Fz 65N 65Nc 65N 65Np 65Nr2 65Nr4 65Nm

Like the preceding species.

## 12. *Oedipoda schochii* Saussure, 1884

Synonyms: *schochii* Saussure, 1884; *caucasica* Saussure, 1884; *monotona* Steinmann, 1965

Range (in codes): TR Cc GG Sn IL Pa JO SY Hal LB IQ IR AF 04 06 07 18 21 24 26 30 36 38 42 43 44 46 49 51 58 63 65 04C 04D 04E 04F 08H 24E 30B 30Bk 36C 36E 36Ec 44L 44B 44H 44C 44F 44Fb 44N 46A 49E 49Ed 58K 63C 63E 65A 65Ac 65B 65F 65Fe 65Fp 65Fz 65G 65Gz 65K 65Ky1 65Kz 65Kg 65N 65Nr2 65Nr4 65Nm

Like the preceding species, inhabits at warm, rocky places. The *Oedipoda* and *Sphingonotus* species are observed singly. It seems that these species are not associated with the species of *Dociostaurus*, *Pyrgodera*, *Oedaleus*, *Chortippus*, etc.

## 13. *Pyrgodera armata* (Fischer von Waldheim, 1820)

Synonym: *armata* Fischer von Waldheim, 1820

Range (in codes): TR Cc GG RU KG AF TM IR IQ IL Pa KK 01 02 04 05 06 07 08 12 13 16 19 21 23 25 26 27 30 32 33 36 38 42 44 46 47 49 50 51 56 58 62 63 65 71 76 04I 13A 13Ab 13Ax 13B 13G 30B 30Bk 36D 36Db 44C 44B 44O 44L 44F 46A 46B 46Bb 49E 49Ed 56F 63C 65A 65Ac 65D 65Dc 65G 65Go 65F 65Fz 65K 65Kz 65Kg 65N 65Np4 65Nr3 65Nr4 65Nm 76A

One of the species in the acridid communities in summer. Locally seen, uncommon.

## 14. *Sphingonotus (s.str.) nebulosus* (Fischer von Waldheim, 1846)

Synonym: *nebulosus* Fischer von Waldheim, 1846

Range (in codes): TR AZ Cc Nv Ord IR Elb Srd RU PK BI UZ Fe KG MN CN Ui 04 05 06 07 18 19 24 26 30 36 42 44 46 48 51 65 04D 04E 04I 24E 30Br 36D 36Db 44C 44H 44M 44B 44E 44F 44Fb 44L 46A 65A 65Ac 65D 65G 65Gw 65Gz 65N 65Nr4 65Nm

Locally common, inhabits at warm, sandy places.

## 15. *Sphingonotus (s.str.) pilosus* Saussure, 1884

Synonym: *pilosus* Saussure, 1884

Range (in codes): TR Cc IR Elb 06 23 24 25 26 27 29 36 44 45 48 51 62 63 65 76 24E 36D 44H 44C 44L 44B 63C 63E 65A 65Am 65Am1 76B

Like the preceding species. New to the fauna of Van Province.

## Gryllidae

## 16. *Oecanthus pellucens* (Scopoli, 1763)

Synonyms: *pellucens* Scopoli, 1763; *italicus* Fabricius, 1781; *lutaria* Petagna, 1792; *aquea* Fabricius, 1798; *varia* Fischer von Waldheim, 1846; *angustipennis* Fitch, 1856 Range (in code): DZ PT FR DE AT CZ HU IT Sa HV B-H YU RO RU Sb FI UA Cm TR Cc SY LB IL Pa SA JO KG MN UG Rz 01 03 04 06 07 08 09 16 18 19 22 23 24 25 26 30 31 33 34 35 37 39 41 44 45 47 51 54 56 58 59 65 67 71 80 04C 08G 08H 18F 31B 31C 31F 31K 31Ka 33K 33Kb 44E 44Eh 44I 44Ic 44C 56F 58F 65A 65Ai 65F 65Fp 65Fz 65K 65Kd 65Ky1 65Kg 65N 65Nr4 65Nm

Uncommon.

## Gryllotalpidae

## 17. *Gryllotalpa gryllotalpa* (Linnaeus, 1758)

Synonyms: *gryllotalpa* Linnaeus, 1758; *talpa* Olivier, 1791; *vulgaris* Latreille, 1804

Range (in codes): DZ TN PT ES FR GB NL DE DK FI NO SE CH AT HU YU IT BG GR RO RU UA TR IQ Bgd IR Ke SA SY LB IL Pa RE 01 02 03 04 06 07 08 09 13 16 17 21 23 24 25 31 33 34 35 39 42 44 45 47 50 51 54 56 63 65 76 31M 44C 56F 65A 65Au 76A 76Ac

Common in the gardens as pest.

## Pamphagidae

The members of this family are very interesting in Turkey from the zoogeographical standpoints. Most of the species are restricted to very narrow areas. It is also taxonomically very important group. Recently, Ünal (2007, 2016) published revisional studies in this family. The results show that more attention should be given to Pamphagidae family.

In the district two genera of this family, *Nocaracris* and *Paranothrotus* are reported here.

**18. *Nocaracris van* Ünal, 2016 (Figs. 6-8)**

Koçak & Kemal, 2016b; Ünal, 2016.

Synonyms: *rubripes* sensu Koçak & Kemal, 2016; *van* Ünal, 2016

Range (in codes): TR 65 65A 65Ai 65Aj 65B 65Bn 65F 65Fp 65Fz

The species was recently described by Ünal (2016) from İspiriz Mt. near Başkale city (Van Province). The identities of the species illustrated have been confirmed by Ünal (pers. comm.). In the district, this species is apparently common at high altitudes. Currently, the species is known only from Van Province (Başkale, Bahçesaray and Gevaş districts).

**19. *Paranothrotus opacus* (Brunner von Wattenwyl, 1882) (Figs. 9-10)**

Synonyms: *opacus* Brunner von Wattenwyl, 1882, *hakkariana* Demirsoy, 1973 Range (in code): IR Ak Ab Lo Km Kd IQ Mos Su Dk Pjw TR 23 30 47 63 65 73 23K 30B 30Bd 30Be 30Bk 30Bm 30C 30D 30Du 63H 65A 65Ai 65D 73A 73Aa 73C 73Ci

This species is distributed in SE Turkey (Urfa, Elazığ, Mardin, Şırnak, Van, Hakkari) and Iran. In the district, the species is represented by nominate subspecies (M. Ünal, pers. comm.).



**Figs. 6,7** - *Nocaracris van*, in copula. From Bahçesaray, İmamlı 2610m (65Aj), on 25 6 2016 (left); female of the same species from Garipli 2300m (65Aq), on 4 6 2016 (right), M. Kemal (Cesa)



**Fig. 8** – Dead male of *Nocaracris van*, a food for tenebrionids and ants. Bahçesaray, İmamlı 2550m, on 25 6 2016, M. Kemal (Cesa)





**Figs. 9, 10** - *Paranothrotres opacus*. From Bahçesaray, Paşaköy 1590m (65Ai), on 25 5 2016 among the leaves of Apiaceae (left); same specimen, lateral view (right), M. Kemal (Cesa)

## Tetrigidae

### 20. *Depressotetrix depressa* (Brisout, 1848)

Synonyms: *depressa* Brisout, 1848; *acuminata* Brisout, 1850; *charpentieri* Fieber, 1853; *elevata* Fieber, 1853; *rudis* Walker, 1971; *turcicus* Demirsoy, 1977

Range (in codes): TR ES FR GR BG RO Cm IR Cc GG 01 03 04 06 08 09 13 16 18 21 22 23 24 25 26 31 33 34 35 36 42 44 50 51 55 63 65 66 71 80 04E 04I 08A 08G 08H 13F 31C 31M 36B 36D 36Db 44C 44F 44M 44O 63E 65A 65Ag

New to the fauna of Van Province.

### 21. *Tetrix bolivari* (Saulcy, 1901)

Synonym: *bolivari* Saulcy, 1901

Range (in codes): ES FR CZ YU SS B-H HV RO BG TR Cc GG RU KG TM UZ KK 04 06 08 12 13 14 21 23 31 34 35 36 42 44 50 61 63 65 71 04E 04I 08G 36D 44B 44C 44F 44L 63B 63C 63E 65A 65Ai

New to the fauna of Van Province.



**Figs. 11, 12** - *Acrometopa syriaca*. From Bahçesaray, Spindaran 2320m (65Ac3) on 10 8 2016 (left); *Conocephalus fuscus* (male). From Upper Mukus Valley (65Am4). Nocturnal, captured early in the morning at 5:43 a.m. (right), M. Kemal (Cesa)

## Tettigoniidae

In Bahçesaray district, 9 species are reported here.

### 22. *Acrometopa syriaca* Brunner von Wattenwyl, 1878 (Fig. 11)

Synonyms: *syriaca* Brunner von Wattenwyl, 1878; *festae* Giglio-Tos, 1893; *elsae* Werner, 1937

Range (in codes): GR CY EG IL Pa Cc LB Bei SY Dms TR IQ 04 07 09 13 21 25 27 31 33 35 36 44 46 56 63 65 76 80 13F 13F7 13F71 27D 36D 44L 44N 44H 46D 56F 63C 63E 46A 65A 65Ac 65Ac3 65Am 65Am4 65D 65Df 65E 65Eb 65F 65Fp 65Fz 65N 65Np 65Nm 76A

Common in summer.



**Fig. 13** – Ecdysis in Tettigoniidae. From Bahçesaray, Paşaköy 1600m (65Ai), on 9 5 2016, M. Kemal (Cesa)

**23. *Conocephalus (Anisoptera) fuscus* (Fabricius, 1793) (Fig. 12)**

Synonyms: *fuscus* Fabricius, 1793; *discolor* Thunberg, 1815; *thoracicus* Fischer von Waldheim, 1846; *concolor* Bolívar, 1878; *ponticus* Nedelkov, 1907; *turanicus* Semenov, 1916; *dilatatus* Ramme, 1951

Range (in codes): PL DE FR ES GB IT Sa SE YU HV B-H BG RO RU Cc AZ AM GG KG MN TR 01 02 05 06 07 08 09 10 12 13 14 16 19 21 23 25 26 30 31 33 34 35 36 39 43 44 46 47 50 53 56 59 61 62 63 65 71 76 81 25F 31M 44F 44Fb 56F 56Fp 63C 63E 65A 65Am 65Am4 65E 65Eb 65L 65La 76E

Material examined: 1♂. Bahçesaray, Upper Mukus Valley 1840m, 6 8 2016, M. Kemal & A. Koçak leg. (Cesa)

This species is easily distinguishable by its conical head, shorter tegmina than hindwing, and spined cercus of the male. The specimen came to the light trap and captured very early in the morning at Upper Mukus Valley. The species is also known Erciş and Edremit districts of Van Province.

**24. *Isophya hakkarica* Karabağ, 1962 (Figs. 14-17)**

Synonym: *hakkarica* Karabağ, 1962

Range (in codes): TR IQ Su 30 65 30B 30Ba 65A 65Ai 65D? 65Dç?

The species described from Hakkari (Karadağ) (Karabağ, 1962), and also reported from northern Iraq (Ünal, 2005). Male, female and possibly the nymph of this species are recorded and illustrated from Paşaköy (Bahçesaray). The population from Yapılı (Çatak district) belong possibly to this species (M. Ünal, pers. comm.).

New to the fauna of Van Province.

**25. *Pezodrymadusa indivisa* Karabağ, 1961 (Fig. 18)**

Karabağ, 1961; Koçak & Kemal, 2012; Kemal & Koçak, 2016a.

Synonyms: *kurmana* sensu Karabağ, 1958 nec Rme., 1939; *indivisa* Karabağ, 1961

Range (in codes): TR 44 65 44C 65A 65Ai 65D 65Dç 65Dr 65Drd 65F 65Fp 65Fz

The species was described by Karabağ (1961) from Artos Mt. (Gevaş district, Van Province). A topotypical specimen was illustrated in nature by the authors (Koçak & Kemal, 2012: fig. 11). A nocturnal species, during day time, they are hidden between the rock cracks.





**Figs. 14-17** - *Isophya hakkarica*. Above: Two males from Paşaköy 1600m. On 12 6 2016 (left), on 5 7 2017 (right). Bottom: Female from the same place, on 10 6 2016 (left), a nymph possibly of the same species from the same place, on 25 5 2016 (right), M. Kemal (Cesa)

## 26. *Platycleis (s.str.) escalerae* Bolivar, 1899

Synonyms: *escalerae* Bolivar, 1899; *iphigeniae* Adelung, 1907; *iranica* Ramme, 1929; *graeca* Harz, 1966; *#escaleraia* Salman, 1978

Range (in codes): TR Cc AZ Nv Ord SY IR Ak Ab Elb Th IL Pa 01 04 06 08 13 14 21 27 31 35 36 44 46 63 65 73 76 04C 04F 04H 08A 13A 13Ae 13Ax 27D 31C 36B 36D 44H 44C 44B 44M 44L 46B 46Bb 63E 65A 65Ai 65Am 65Am1 73D 73Da 76A 76Ac 76D



**Fig. 18** – *Pezodrymadusa indivisa* (female). Bahçesaray, Paşaköy 1600m, on 5 8 2016, M. Kemal (Cesa)



**Figs. 19-20** – Female of *Polysarcus elbursianus* with spermatophore. Bahçesaray İmamlı 2600m on 25 6 2016, M. Kemal (Cesa)

**27. *Polysarcus elbursianus* (Uvarov, 1930) (Figs. 19-20)**

Kemal et al., 2016.

Synonyms: *elbursianus* Uvarov, 1930; *rechingeri* Werner, 1939

Range (in codes): IR Elb Dam TR 36 65 36F 65A 65Af 65Ah 65Aj 65F 65Fe

This species is recently reported from Bahçesaray as a serious pest to the gardens, orchards in the city (Kemal et al., 2016). It was originally described from northern Iran, and after more than 80 years, it was also reported in Van Province (Bahçesaray and Gevaş districts). In 2016, the authors observed the populations of this species in Bahçesaray at high altitude about 2600m in May at young nymph stages, later nymph and adults together in June and July. In summer season, the populations were enormous and expanded downwards until the elevation 2000m. In the region, no predator of this species could be observed by the authors. Among the thousands adults, the authors couldnot observe any pair *in copula*. However, a few females were observed with spermatophore, attached by male after copulation. In 2017, the authors visited the same place at the same date, where the grasshopper recorded in swarm. It is interesting that the authors couldnot find any specimen there. The local people expect the swarm of this grasshopper next year again.

The reproduction biology of *Polysarcus elbursianus* should be urgently studied.

**28. *Tettigonia viridissima* (Linnaeus, 1758)**

Synonyms: *viridissima* Linnaeus, 1758; *cantatrix* De Geer, 1773; *flava* Nedelkov, 1907; *meridionalis* Shugurov, 1912; *paoli* Capra, 1936; *intermedia* Jannone, 1937; *trinacriae* Jannone, 1937

Range (in codes): DZ GB FR DE IT Sa SE EE LT BY RU HV B-H YU AL BG RO HU Cc AZ AM GG Tbl IR KG MN TR AF 01 03 05 06 07 08 09 12 14 16 21 23 24 25 26 28 30 31 33 34 35 36 39 42 44 45 46 47 48 50 52 54 55 56 57 58 60 62 65 67 71 08G 31B 31C 36D 44C 56F 56Fb 65A 65As 65D 65Df 65Fz

**29. *Tylopsis lilifolia* (Fabricius, 1793)**

Synonyms: *lilifolia* Fabricius, 1793; *thymifolia* Petagna, 1792; *gracilis* Germar, 1817; *marginipunctata* Audinet-Serville, 1838; *praeusta* Fischer von Waldheim, 1846; *spinus* Fischer von Waldheim, 1846; *#lilifolia* Bolivar, 1877

Range (in codes): TR CY FR IT Sa YU HV B-H HU RO BG Cc AZ AM GG UA Cm 01 03 05 06 07 09 10 11 14 15 16 17 18 19 22 24 25 26 27 31 32 33 34 35 37 39 41 43 44 50 54 55 56 57 58 59 63 65 67 71 77 78 81 18F 27D 44C 44B 44H 56F 63B 63E 65A 65Am 65Am4 65D 65F 65Fp 65Fz 65N 65Nb

**30. *Uvarovistia (s.str.) satunini* (Uvarov, 1916) (Figs. 21-24)**

Synonym: *satunini* Uvarov, 1916 Range (in codes): TR Cc 12 13 21 23 30 49 56 62 65 30B 30Bm 56F 56Fb 65A 65Ai 65D 65F 65Fp 65Fz 65N 65Np4 65Nm

This species is confined to SE Turkey. In Van Province, it was also observed previously as swarms at Çatak district, but uncommon at Tuşba, Gevaş and Bahçesaray districts. Also in Şirvan district (Siirt Province), this species was very common. Filming about its cannibalism at Şirvan was taken for the first time (Kemal, 2011).





**Figs. 21-24** – *Uvarovistia satunini*. Above: male specimen from Bahçesaray, Paşaköy 1600m, on 10 6 2016 (left), a young female of the same species from the same place, on 2 6 2016 (right). Bottom: Adult female from the same place, on 10 6 2016 (left), copulation from the same place – a very rare case for this species, on 25 6 2016 (right), M. Kemal (Cesa)

### Acknowledgement:

We sincerely thank to Mustafa Ünal (Turkey) for his kind help and comments.



## Selected References

- Anlaş, S. & P. Kocarek**, 2012, Current status of Dermaptera (Insecta) fauna of Turkey and Cyprus. *Türk. ent. Derg.* 36 (1): 43-58.
- Ehrmann, R.**, 2011, Mantodea from Turkey and Cyprus (Dictyoptera, Mantodea). *Articulata* 26 (1): 1-42.
- Karabağ, T.**, 1961, Revision of Drymadusa Stein and related genera (Orthoptera, Tettigoniidae). *Bull. Br. Mus. (Nat. Hist.) Ent.* 11 (1): 1-41, figs.
- Karabağ, T.**, 1962, Some new and little known Phaneropterinae (Orthoptera, Tettigoniidae) from Turkey. *Proc. R. ent. Soc. London* (B) 31: 4-10, figs.
- Kemal, M.**, 2011, Predator Insects. *Cent. ent. Stud., Icon. Ins.* (Ser.A). MPEG2 file. Duration 9 min. 32 sec. Internet archive: <http://www.archive.org/details/PredatorInsects>
- Kemal, M. & A.Ö. Koçak**, 2014, Illustrated and annotated list on the Entomofauna of Goren Mount (Van Province, East Turkey), with ecological remarks I. Period of April-June 2014. *Priamus* (Suppl.) 33: 5-206, 273 figs. 1 Table.
- Kemal, M. & A.Ö. Koçak**, 2015, Notes on Platycleis (Squamiana) irritans Ramme in Van Province (East Turkey) (Orthoptera, Tettigoniidae). *Cesa News* 102: 1-4, 8 figs.
- Kemal, M. & A.Ö. Koçak**, 2016a, Annotated list of the Pterygota fauna of Artos Mountain (Van Province, East Turkey). *Cesa News* 125: 1-36, 30 figs.
- Kemal, M. & A.Ö. Koçak**, 2016b, First contribution to the knowledge of the Pterygota fauna of Bahçesaray (Van Province, East Turkey). *Cent. Ent. Stud., Misc. Pap.* 161, 1-16.
- Kemal, M. & A.Ö. Koçak**, 2017, Observations and faunistic notes on some Diptera of Bahçesaray district (Van Province, East Turkey). *Cesa News* 144: 1-12, 10 figs.
- Kemal, M., Koçak, A.Ö., Hakan, E. & H. Tekin**, 2016, Polysarcus elbursianus in Van Province (East Turkey) (Orthoptera, Tettigoniidae). *Cesa News* 127: 1-10, 25 figs. 1 tab.
- Koçak, A.Ö. & M. Kemal**, 2012, List of the two thousand species of pterygot insects in Van Province (East Turkey) (Results of the entomofauna project of Turkey-7). *Cesa News* 81: 2-86, 37 figs.
- Koçak, A. Ö. & M. Kemal**, 2017, Geographical codes used in the publications of the Cesa. *Cesa News* 135: 1-40.
- Mol, A., Şirin, D. & M.S. Taylan**, 2014, Türkiye'de dağılım gösteren bazı Caelifera (Insecta, Orthoptera) türlerinin yeni lokalite kayıtları, endemizm, yaygınlık ve tarımsal zarar oluşturma açısından değerlendirilmesi. *Bitki Koruma Bülteni* 54 (2): 133-170, figs.
- Ünal, M.**, 2005, Phanaeropterinae (Orthoptera, Tettigoniidae) from Turkey and the Middle East. *Trans. am. ent. Soc.* 131 (3/4): 425-448, figs.
- Ünal, M.**, 2007, Genus Asiotmethis Uvarov (Orthoptera, Pamphagidae) from Turkey, with a checklist of known taxa. *J. Orthopt. Res.* 16 (2): 191-197, figs.
- Ünal, M.**, 2016, Pamphagidae (Orthoptera, Acridoidea) from the Palaearctic Region: taxonomy, classification, keys to genera and a review of the tribe Nocarodeini I. Bolivar. *Zootaxa* 4206 (1): 1-223, figs.
- Semenov, A.**, 1901, Russkije vidy rodov Anechura Scudd. i Forficula (L.) Scudd. (Orthopt., Forficulidae) i ich geografotsheskoje raspredlenije. *Horae Soc. ent. ross.* 35: 185-201.
- Şirin, D., Mol, A., Taylan, M.S., Demir, E. & D.H. Kızılocak**, 2017, The Gomphocerinae Tarbinsky, 1932 (Orthoptera, Acrididae) fauna of the Turkish Thrace. *Zootaxa* 4299 (3): 361-383, figs.

**Cesa News**

Cesa News is a peer reviewed online serial of the Centre for Entomological Studies Ankara (Cesa), established in 2008. It appears at irregular intervals as PDF format and includes original articles of the research workers of the Centre, regarding on various subjects on Entomology. The publication language is English or Turkish. Cesa News is archived online at "Internet Archive" since 2011, in accordance with the publication rules of the ICZN.

Cesa News is an open-access serial, distributed under the terms of the "Creative Commons Attribution License", which permits free use, and distribution in any medium, provided the original author(s) and source are credited.

**Centre for Entomological Studies Ankara**

(A scientific Consortium)

(co-operation of research workers for pure-scientific, not commercial purpose)

Web Page of the Cesa: <http://www.cesa-tr.org/>

- Digital Library of the Cesa:

<https://archive.org/details/@cesa>

**Scientific Serials:** Priamus & Priamus Supplement (print and online versions) (ISSN 1015-8243)<sup>2</sup>, Miscellaneous Papers (print and online versions) (ISSN 1015-8235)<sup>3</sup>, Memoirs (print and online versions) (ISSN-8227)<sup>4</sup>, DVD Films<sup>5</sup>, Iconographia Insectorum<sup>6</sup> (online), Cesa Publications on African Lepidoptera (online)<sup>7</sup>, Cesa News (online)<sup>8</sup>, Cesa Books (online)<sup>9</sup>

**Owners / Sahipleri - Editors / Yayıncılar:** Prof. em. Dr. Ahmet Ömer Koçak (c/o Yüzüncü Yıl University, Van, Turkey), Asst. Prof. Dr. Muhabbet Kemal Koçak (c/o Yüzüncü Yıl University, Van, Turkey).

**Editorial Board of all Scientific Serials of the CESA / Bütün Bilimsel Yayınların Yayın Kurulu:** Insecta, taxonomy, nomenclature, ecology, faunistics: Prof. Dr. Ahmet Ömer Koçak (Yüzüncü Yıl Üniversitesi, Turkey), Asst. Prof. Dr. Muhabbet Kemal Koçak (Yüzüncü Yıl University, Turkey).

**Chief referees of all Scientific Serials of the CESA:** Prof. em. Dr. Ahmet Ömer Koçak & Asst. Prof. Dr. Muhabbet Kemal Koçak: Insecta, taxonomy, nomenclature, fauna, ecology, catalogues, checklists of the Old World.

**Expert referees according to the subject areas:** Dr. Peter Huemer (Austria): Gelechiidae, and some Microlepidoptera groups in Palaearctic (Lepidoptera). Dr. J. B. Heppner (U.S.A.): Microlepidoptera of Nearctic and Neotropical. Dr. G. Baldizzone (Italy): Coleophoridae (Lepidoptera). Dr. V. Korneyev (Ukraine): Tephritidae, Pyrgotidae, Ulidiidae (Diptera). Prof. Dr. Y.G.Verves (Ukraine): Sarcophagidae (Diptera). Dr. Daniel Burckhardt (Switzerland): Psyllidae (Homoptera). Prof. Dr. E. Heiss (Austria): Hemiptera. Dr. R. Ehrmann (Germany): Mantodea. Prof. Dr. Mustafa Ünal (Bolu, Turkey): Orthoptera. Prof. Dr. Hüseyin Özdikmen (Turkey): Coleoptera. Prof. Dr. Suat Kiyak (Turkey): Hemiptera, Hymenoptera (Cynipidae).

**Plant taxonomy, flora and vegetation:** Assoc. Prof. Dr. Murat Ünal, Asst. Prof. Dr. Mesut Pınar, (Yüzüncü Yıl University, Van, Turkey).

**Editorial policy:** The submitted manuscript is evaluated by the Chief Editor and Referee. In case of need, the manuscript is sent to expert referees according to the subject areas.

**ALL RIGHTS  
RESERVED**

Correspondences should be addressed to: Prof. em. Dr. Ahmet Ömer Koçak, c/o Yüzüncü Yıl University, Fen Fakültesi, Biyoloji Bölümü, Kampus, Van / Turkey. - e-mail: [cesa\\_tr@yahoo.com.tr](mailto:cesa_tr@yahoo.com.tr)

All the serials of the Cesa are archived regularly by the Internet Archive  
(300 Funston Ave., San Francisco, CA 94118, U.S.A.),  
in accordance with the rules of the International Codes of Zoological Nomenclature (ICZN)  
<https://archive.org/>

also recorded regularly by the Zoological Record,  
Thomson Reuters, Enterprise House, Innovation Way, Heslington, York, YO10 5NQ, United Kingdom  
<https://clarivate.com/>

<sup>2</sup> <http://www.cesa-tr.org/Priamus.htm> <http://www.cesa-tr.org/Pri.htm>

<sup>3</sup> <http://www.cesa-tr.org/Miscell.htm>

<sup>4</sup> <http://www.cesa-tr.org/Memoirs.htm>

<sup>5</sup> <http://www.cesa-tr.org/CDF.htm>

<sup>6</sup> <http://www.cesa-tr.org/Icon.htm>

<sup>7</sup> <http://www.cesa-tr.org/CPAL.htm>

<sup>8</sup> <http://www.cesa-tr.org/Cesanews.htm>

<sup>9</sup> <http://www.cesa-tr.org/Cesabooks.htm>